

ABSTRACT OF THE DISCLOSURE

A sodium-based dechlorinating agent ~~g~~ is added to a flue gas ~~G~~; hydrogen chloride contained in this flue gas is removed as residue of dechlorination; the thus removed residue of dechlorination is dissolved by adding water ~~i~~; water-insoluble constituents ~~k~~ are separated from the resulting aqueous solution ~~j~~; and after adjusting pH of the aqueous solution ~~l~~ remaining after separation of the water-insoluble constituents ~~k~~, mercury, dioxin, and the like are removed and discharged. The sodium-based dechlorinating agent ~~g~~ is mixed with a hydrophilic anti-caking agent, with an angle of repose of 40° or more, a dispersibility of less than 50, and a floodability index value of less than 90. ~~A mean particle diameter of sodium hydrogencarbonate is set within a range of from 2 μm to 30 μm. The hydrophilic anti-caking agent comprises silica, and is contained in an amount of 0.1 mass % or more in the sodium-based dechlorinating agent. Further, a mean particle diameter of the hydrophilic anti-caking agent is set within a range from 0.001 μm to 1 μm.~~ This permits inhibition of occurrence of a pressure drop and leakage in the filter cloth of the dust collector.